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ABSTRACT OF THE DISCLOSURE

One or more techniques are provided for deriving motion data from a set of CT projection data. The techniques calculate moments associated with consistency conditions for the projection data to derive motion data from the projection data. One aspect of the present techniques uses the calculated moments to select projection data sets based upon the presence or absence of motion between the projection data sets. Periodicity information may then be extracted from the selected projection data sets. Another aspect of the present techniques uses projection data acquired by a slowly rotating volumetric CT gantry to allow the separation of a corruptive signal from a desired motion signal. Once separated, the desired motion signal may be used to identify projection data at a desired phase of motion.